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Dated 20 SEP 1996

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Request for grant of a Patent

Form 1/77

Patents Act 1977

1 Title of invention

- 1 Please give the title of the invention COMPUTER SYSTEM FOR IDENTIFYING LOCAL RESOURCES

2 Applicant's details☐ **First or only applicant**

- 2a If you are applying as a corporate body please give:
Corporate name

Country (and State of incorporation, if appropriate)

- 2b If you are applying as an individual or one of a partnership please give in full

Surname PHELAN

Forenames SEAN PATRICK

- 2c In all cases, please give the following details:

Address

Waverley Cottage,
24 Merton Rise,
London,

UK postcode NW3 3EN
(if applicable)

Country United Kingdom

ADP number
(if known)

6833016001

2d, 2e and 2f: If there are further applicants please provide details on a separate sheet of paper.

☐ **Second applicant (if any)**

2d If you are applying as a corporate body please give:

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① An address for service in the
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Please mark correct box

① Address for service details

3a Have you appointed an agent to deal with your application?

Yes ☒ No ☐ → go to 3b

↓
please give details below

Agent's name
W.H. BECK, GREENER & CO.,
Agent's address

7 Stone Buildings,
Lincoln's Inn,
London, —

Postcode WC2A 3SZ

Agent's ADP
number 323001

3b: If you have appointed an agent, all
correspondence concerning your
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3b If you have not appointed an agent please give a name and address in the
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**4 Agent's or
applicant's reference
number (if applicable)**

⑤ Claiming an earlier application date

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1 number of earlier application or patent number

filing date

1] and the Section of the Patents Act 1977 under which you are claiming:

15(4) (Divisional) ☐ 8(3) ☐ 12(6) ☐ 37(4) ☐

6 If you are declaring priority from previous application(s), please give:

Please give the date in all number format, for example, 31/05/90 for 31 May 1990.

Country of filing	Priority application number (if known)	Filing date (day, month, year)

7 The answer must be 'No' if:

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- there is an inventor who is not an applicant, or
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6 Please supply duplicates of claim(s), abstract, description and drawing(s).

Please mark correct box(es)

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Inventorship

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No ☐

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Checklist

8a Please fill in the number of sheets for each of the following types of document contained in this application.

Continuation sheets for this Patents Form 1/77

Claim(s)

5

Description

16

Abstract

Drawing(s)

3

8b Which of the following documents also accompanies the application?

Priority documents (please state how many)

Translation(s) of Priority documents (please state how many)

Patents Form 7/77 – Statement of Inventorship and Right to Grant
(please state how many)

Patents Form 9/77 – Preliminary Examination/Search

Patents Form 10/77 – Request for Substantive Examination

Request

I/We request the grant of a patent on the basis of this application.

Beck

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W.H. BECK, GREENER & CO,
Agents for the Applicant

Date 16 08 1995
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COMPUTER SYSTEM FOR IDENTIFYING LOCAL RESOURCES

This invention relates to computer systems, and to methods of operating computer systems, and has particular
5 relevance to the so called "World Wide Web", which is part of the global computer network system known as the Internet.

The Internet and the World Wide Web ("The Web") have
10 been described in great detail in a large number of publications in recent months. The web consists essentially of an enormous number (at the last count, many millions, and expanding rapidly) of "host" or "server" computers which contain information of various types which
15 users may wish to access. Users of the system employ a "client" computer, running "client" software, in order to access the information. Such client programs are usually known as "browsers".

20 Various standard protocols enable requests to be formulated by the many client computers, and passed via the Internet to whichever computer holds the relevant information, which then returns the information to the client, using the same protocols.

25 The protocol which is used on the World Wide Web is an agreed standard, known as the HyperText Transfer Protocol (HTTP).

30 The language in which "Web" pages are generated is known as "HyperText Markup Language" (HTML).

The success of HTML/HTTP is based to a large extent on the ability of HTTP to produce so called "hypertext links"
35 in the form of some sort of displayable icon on the computer screen of the client. The icon may be a graphical

icon, or, more commonly, simply text represented in a form which is visually distinct from the surrounding text. Activating the icon with a pointing device (for example, clicking on it with a mouse pointer) causes the browser software to formulate a request for further information to be sent to the "client". This further information may be simply a "page" of text data, or it may be graphical data, or sound or video data. It may reside on the same server computer as the page containing the hypertext link, but need not do so, and will often reside on a computer many thousands of miles away.

The World Wide Web has attracted increasing attention in recent months as an advertising medium for various goods and services. The advantage of the Web as an advertising medium is that a single connection allows access by millions of potential customers around the world, without any need for the customers to know or be interested in the physical location of the server computer which is providing the information. Links to the pages of interest may be provided by hundreds or thousands of other pages, provided on other servers, throughout the world.

For many goods and services, the lack of a physical "place" on the Internet is an advantage. A consumer, no matter where his location, is presented with a familiar interface, which makes access very straightforward. The very size of the World Wide Web however, means that, as presently constituted, it is not well suited to answering questions about places and proximity. For example, it is not possible, using existing Web search tools to answer questions such as "where is the nearest hamburger restaurant" in spite of the enormous benefit which would accrue to major restaurant chains and the like in providing their own answers to such questions, with the speed and ease for which the Internet is famous.

The present inventions seeks to address the problem of facilitating access by internet users, and in particular by users of the World Wide Web, to internet resources, where the primary differentiator between different places of interest is geographical.

In accordance with the present invention, this can be achieved by storing on a first server (or "map" server) data which is representative of a map of a geographical area, and of data representing the spatial coordinates of at least one point associated with the area. Data relating to places of interest within the geographical area is provided, on a second (or "overlay") server computer. The data stored on the second ("overlay") server also includes data representative of the spatial coordinates of places of interest within the area.

A client computer or "browser" is able to retrieve the map data from the first server, and display the map on a visual display unit. The client is also capable of formulating a request to the overlay server to identify places of interest known to it, and lying within the displayed geographical area. This data is retrieved from the overlay server and the retrieved information is also displayed on the client VDU. Preferably the information retrieved from the overlay server is superimposed on the map display (for example in the form of a "hypertext" link) at a position on the image corresponding to the location of the place of interest on the map.

Accordingly, in a first aspect of the invention, there is provided a method of operating a computer system which method comprises

- providing a first server computer;
- storing on the first server computer data representative of a map of a geographical area;

storing on the first server computer co-ordinate data indicative of the spatial co-ordinates of at least one point associated with the said geographical area represented by the map, so as to enable correlation of points on the map with their corresponding geographical location;

providing a second server computer;

storing on the second server computer data relating to at least one place of interest within the said geographical area, said data including data representative of the spatial co-ordinates of the said place of interest within the area;

providing a client computer, the client computer having a visual display unit;

interrogating the first server computer from the client computer, and transmitting from the said first server computer to the said client computer in response to the said interrogation the said map data and the said co-ordinate data associated with the area represented by the map;

utilising the said map data to display an image of the said map on the said visual display unit;

formulating at the client computer based on the said co-ordinate data a request to the said second server computer to identify places of interest known to it and lying within the said geographical area;

transmitting the request to the second server computer;

transmitting from the second server computer to the client computer in response to the said request the said data relating to at least one place of interest within the said geographical area, and

displaying the said data relating to at least one place of interest on the said visual display unit.

35

In a second aspect of the invention, there is provided

a computer system which comprising:

a first server computer for storing data representative of a map of a geographical area and co-ordinate data representative of the spatial co-ordinates of at least one point lying within the area represented by the map;

a second server computer for storing data representative of at least one place of interest within the said geographical area, said data including data representative of the spatial co-ordinates of the said place of interest within the area,

a client computer, the client computer having a visual display unit;

wherein the client computer includes

means for interrogating the first server computer to request transfer to the client computer of the said map data and the said co-ordinate data associated with the area represented by the map,

means for displaying an image of the said map on the said visual display unit,

means for formulating based on the said co-ordinate data a request to the said second server computer to identify places of interest known to it and lying within the said geographical area, and

means for transmitting the request to the second server computer;

wherein the second server computer includes means for transmitting to the client computer in response to the said request the said data representative of at least one place of interest within the said geographical area, and

wherein the said client computer includes means for displaying said data associated with the said place of interest, on the said visual display unit.

The term "first server" and "second server" as used herein are not meant to imply any particular restriction as

to the order in which the said servers are accessed by the client. As with any Web search, a link provided initially by the second ("overlay") computer may link directly to a map in accordance with the invention.

5

The information relating to the place of interest may be superimposed on the map image at a position on the image corresponding to the location of the place of interest on the map. Thus, for example, the overlay server may contain
10 details of, for example, hotels, restaurants, shops or the like, associated with the geographical coordinates of each location. The map server contains map data, including co-ordinate data representing the spatial coordinates of at least one point on the area represented by the map.
15 Further data is also required, so as to enable correlation of points on the map with their corresponding geographical location. Such further data may be, for example the coordinates of an additional point on the map. Preferably, co-ordinates of two opposite corners of the map are
20 included. Alternatively, the said further data may include a simple scale factor and a direction factor.

In a further preferred embodiment, the map server may be provided with a list of categories of places of
25 interest, together with details of the respective overlay servers on which further information about each category is located. Each of these categories may be associated with a respective icon on the VDU of the client. In an alternative embodiment, such a list of categories may be
30 provided on a further server.

Initially, the client computer may display the map as a simple outline, with no superimposed icons. When one of the "category" icons is activated (for example, by clicking
35 with a mouse) the client computer formulates a request to the appropriate overlay server, for the overlay server to

supply a list of locations known to it which lie within the rectangle defined by the said coordinates. The information supplied by the overlay server may include textual, graphical, sound, video or other information, and may
5 include additional hypertext links to other locations or facilities on the Web, which themselves may include textual, graphical, sound, video or other information.

It is a particular advantage of the system that the
10 various overlay servers (information providers) do not need to have knowledge of the "map server" software provided on the map server, and vice versa. All that is required in order for the relevant data to be supplied to the client computer is a consistent protocol for providing the
15 co-ordinates of the various places of interest.

Two or more servers can provide "places of interest" data independently, without either having any knowledge of the other. For example, one server may provide locations
20 of hotels, a second may provide locations of restaurants, and a third may provide locations of print shops or the like. All of the data (for example, hypertext links, icons etc.) can be overlaid on a single map on the screen of the client computer with hypertext links provided to the
25 various source data on the different overlay server computers.

In a particularly preferred embodiment, the client computer may include means for establishing the current
30 geographical location of the client computer by means of a Global Positioning System (in particular, a satellite system) and for passing the said location information to the overlay server computer. Such location information may be utilised by the overlay server computer to identify
35 facilities within a given radius of the current geographical location of the client computer. This

facility makes the method of the invention of particular usefulness to portable computer systems.

5 The client computer may include means for scrolling or
zooming the map image, to display an image of a different
geographical area, and means for varying the displayed data
relating to the places of interest, so as to take account
of the change in the display geographical area. This may
take the form simply of changing the position of the icon
10 or hypertext data relating to particular points of
interest, so as to take account of the change in the
display geographical area. Preferably, however, the client
computer may include means for formulating a further
request to an overlay server, to identify places of
15 interest lying within the new geographical area.

A preferred embodiment of the invention is illustrated
in the accompanying drawings, in which:

20 Figure 1 is a graphical representation of a client
screen, showing a simple map with "category" icons;

Figure 2 shows the same map after retrieval of
information relating to various places of interest (in this
25 case, hotels and restaurants), and

Figure 3 is a schematic representation of information
flow between the map and overlay servers and the client
computer.

30 Referring to Figure 1, the screen of a client computer
is shown, displaying a map, which fills most of the screen,
and supplied, in a generally conventional form, from a
server computer. The map may be supplied by the server in
35 any of the various conventional graphics formats, for
example in "JPG", "GIF" or "BMP" format.

The information supplied by the map server also includes the geographical coordinates of the bottom left corner of the map, and the top right corner of the map. In the case illustrated, this is supplied by the map server
5 computer as a pair of real numbers (representing latitude and longitude in degrees), for each of these two corners of the map.

Also supplied by the map server or "map server" are
10 the icons 2, 3, 4, and 5 which are displayed within a panel 6, on the right side of the screen. Icon 2 indicates banks, icon 3 restaurants, icon 4 hotels, etc. Information relating to each category of facilities (banks, restaurants, hotels etc.) is held on a server computer.
15 The server computers for the different information categories may be the same or different.

Clicking with the mouse on a respective icon causes the client computer to formulate an information request,
20 which may be in the form of a standard Web URL (Uniform Resource Locator) including additional protocol elements relating to the location which the user wishes to search.

The overall information flow is indicated graphically in
25 Figure 3.

Figure 3 shows the two key transaction types used by the client. The first transaction type consists of an information request, which goes to a provider of
30 information to be overlaid on a map, followed by a response. The second is a map request, which goes to a map server, followed by a map response back to the client.

Both request types take the form of Uniform Resource
35 Locators (URLs) which are transmitted in the same way as any other WWW request. Unlike other URLs, the map and

information requests contain longitude and latitude information which specify the request's geographical coverage.

5 The responses also contain longitude and latitude information. The information response consists of a text file containing a series of references to WWW pages (HTML Anchors) each with an associated longitude and latitude. The Map response consists of an image file together with
10 the longitude and latitude range that the file covers.

 The protocols and transactions described above are distinct from other protocols and transactions on the World Wide Web.

15 An important feature of the present invention is the addition of a universally recognised standard for geographic reference (for example longitude and latitude) to the protocols and standards of the Internet and the
20 World Wide Web, and its use to combine data from mutually independent sources.

 Information requests produced by the client computer may be of various forms, provided that the protocol is
25 provided for the exchange of the geographical co-ordinate data.

 As indicated above, the information request is generally in the form of a URL (Uniform Resource Locator)
30 which identifies a resource. This may be a simple text file, or may be a search of a suitably equipped database.

 An example of a simple text file request is one of the form
35 <http://mapping.com/example.mmm>

the text file may be held on any web server, but in this example is held on the server "mapping.com".

5 In this example, the "MMM" identifier is an extension to the Internet URL standard, identifying a request in accordance with the present invention.

A more complex database search request may be of the form

10 <http://mcdonalds.com/locations.mmm?NORTH=51.5449 WEST=0.16658 R=1.6>

This is a search request to a server called McDonalds.com requesting all locations within a one mile radius of a location in Hampstead, London. The search request contains three elements - NORTH,
15 WEST and RADIUS - from the following list of possible search elements:

NORTH=51.5449 Longitude in degrees, as a single real number.

WEST=0.16658 Latitude in degrees, as a single real number.

20 RADIUS=1.6 Radius in kilometres.

MAX=10 Maximum number of locations in search result.

25 VR=0 Virtual Reality level - 0 for "reality", other values specify other "virtual worlds" for testing, simulation or whatever.

The information response takes the form of a text file which may
30 contain HTML as well as MMM responses. The file has a MIME type of text/mmm and, in order to make them easily identifiable to web browsers, carry the filename extension "mmm".

The MMM information in a file is enclosed between the following
35 two HTML tags:

<MMM> and </MMM>

Browsers which do not support MMM are expected to interpret these tags as unknown types and ignore them.

5

The MMM information between the MMM tags consists of a series of HTML anchors which contain longitude and latitude encoded in the same manner as in the Information Request, ie:

10 MMM office

Browsers which do not support MMM are expected to display and interpret the parts of these anchors which they recognise, but ignore the longitude and latitude parts, which they will not recognise. The recognised parts will
15 normally be displayed simply as standard hypertext links.

The map request URL is specified in a similar manner to the information request, ie:

20 http://mapping.com/london

http://mapping.com/london?NORTH="51.5449" WEST="0.16658" HI="4" WIDE="5" SCALE="100.00"

25 There are a number of other possible terms that may be included.

The Map Response is an image file encoded in either GIF or (preferably) JPEG format. It is sent in the same
30 format as other image files on the web. It can therefore be displayed by browsers that do not support MMM as well as by browsers and helper applications that do.

The overall accuracy of the positioning of the
35 overlaid data can be improved by dynamically georeferencing the coordinates in the Map Request URL to the map image in

the Map Response URL. This may be done within the HTTP header or by some further exchange of messages.

When the user clicks on one of the subject buttons,
5 the client establishes a connection to the MMM server whose URL is embedded in the button. The client sends the locations, in longitude and latitude, of the top-left and bottom-right corners of its displayed map. Alternatively, the co-ordinate data may be sent in "polar" co-ordinate
10 form (i.e., location of the map centre and radius).

The MMM server responds with a list of the URLs from its database having a longitude and latitude within the bounds specified. Each URL is associated with a
15 displayable name and/or icon and a longitude and latitude. A few status fields may also be sent, such as "highlight", which can be used for levels of availability, etc.

The client software normally overlays the displayable
20 names and/or icons on its map.

The user has the option of opening one or more icons from the screen, normally by clicking on the displayable name. This passes the URL to the web browser which opens
25 it in the usual manner.

In Figure 2, the current location has been sent to three servers: one run by a high street bank, which returns the location of cashpoint machines, one by an independent
30 hotel reservation system and one by a well-known restaurant chain.

The result of the response by the overlay server is shown in Figure 2, in which the same map is displayed with
35 icons representing the various facilities reported by the second server, and hypertext links to text pages or other

Web facilities, in the usual way.

The architecture of the preferred systems is such that it can support a movable map window. A user can scroll
5 North, South, East or West on the screen and see more detail appear, and can equally zoom in and out for more detail or for a wider perspective. This also enables a moving display, such as a rolling map installed in a car, to be dynamically updated with new locations as the
10 displayable window moves over them.

Although the client computer may be a stationary PC connected to the Internet, the architecture is designed to support mobile clients such as car navigation systems and
15 personal digital assistants (PDAs). The client software preferably supports direct connection to Global Positioning System (GPS) receivers, and will implement the NMEA 0183 standard for exchange of navigational data.

20 It is particularly preferred that the additional functionality provided within the World Wide Web, and its architecture is built within the extensible framework of HyperText Markup Language (HTML) and the HyperText Transfer Protocol (HTTP). The extensions to HTML/HTTP are thus
25 preferably entirely compatible with existing Web standards and do not seek to modify, enhance or replace any part of the web architecture.

The software necessary to provide the MMM extensions
30 to the client computer may be provided in the form of a standard "helper" application to a known Web browser (for example, Netscape, Mosaic etc.). The server computers may employ well-known standard database tools in conjunction with known Web server packages, in order to implement and
35 respond to the MMM extensions to the standard HTML/HTTP protocols. The software on the client computer may be

such that, on receipt of an HTML "page" including data with the appropriate coding (in the example given, including the coding "mmm"), the helper application is launched, to provide the functionality which is made possible by the present invention. For example, the helper application may, on retrieving an HTML reference relating to a restaurant location, and containing a "mmm" reference cause the "mmm" reference to be displayed at an appropriate location on the client screen, and issue a request to a further "map" server to supply a graphic file in order to allow a graphic map to be overlayed behind the restaurant location. Such software functionality may also be incorporated within the basic client browser software

Software may be provided for the conversion of postal codes (zip codes) into longitude and latitude information.

The system according to the invention avoids the classical problems of Geographic Information Systems (GISs) by imposing a single, standardised geographic reference model, and restricting data exchanges to those classes of geographic information which can conform to the reference model.

Because of this, servers providing information do not have to deal with maps, map ownership issues or mapping software, information from several different sources can be integrated on a single screen, and maps and overlay information can be "persistent" - that is, can be stored in databases on the client computer and become a permanent feature of displays.

It is of course envisaged that the invention may be implemented in ways which are different from the ways specifically exemplified above. For example, the coordinate data embodied in the map and facility

information may be presented in ways other than in absolute latitude and longitude format.

5 Such alternative implementations are intended to be within the scope of the present invention, as embodied with the appended Claims.

CLAIMS

1. A method of operating a computer system which method comprises

5 providing a first server computer;

storing on the first server computer data representative of a map of a geographical area;

10 storing on the first server computer co-ordinate data indicative of the spatial co-ordinates of at least one point associated with the said geographical area represented by the map, so as to enable correlation of points on the map with their corresponding geographical location;

providing a second server computer;

15 storing on the second server computer data relating to at least one place of interest within the said geographical area, said data including data representative of the spatial co-ordinates of the said place of interest within the area;

20 providing a client computer, the client computer having a visual display unit;

interrogating the first server computer from the client computer, and transmitting from the said first server computer to the said client computer in response to the
25 said interrogation the said map data and the said co-ordinate data associated with the area represented by the map;

utilising the said map data to display an image of the said map on the said visual display unit;

30 formulating at the client computer a request based on the said co-ordinate data to the said second server computer to identify places of interest known to it and lying within the said geographical area;

transmitting the request to the second server computer;

35 transmitting from the second server computer to the

client computer in response to the said request the said data relating to at least one place of interest within the said geographical area, and

5 displaying the said data relating to at least one place of interest on the said visual display unit.

2. A method as claimed in Claim 1, and including the step of superimposing information relating to the said place of interest on the said image on the said visual display unit, at a position on the said image corresponding to the
10 location of the place of interest on the map.

3. A method as claimed in Claim 2, wherein the said information superimposed on the image is a hypertext link.

4. A method as claimed in Claim 2 or Claim 3, wherein the said client computer includes means for scrolling the said
15 map image to display an image of a different geographical area, and means for varying the displayed data relating to the said at least one place of interest on the said visual display unit so as to take account of the change in the displayed geographical area.

20 5. A method as claimed in Claim 4, wherein the said varying of the displayed data includes the step of shifting the position of the superimposed information in response to scrolling of the said map image.

6. A method as claimed in Claim 5, wherein the client
25 computer includes means for formulating a further request to the said second server, -to identify places of interest lying within the said different geographical area.

7. A method as claimed in any one of the preceding Claims, wherein the said client computer includes means for
30 zooming the said map image in or out to display an image of, respectively, a smaller or larger geographical area, and means for varying the displayed data relating to the said at least one place of interest on the said visual display unit so as to take account of the smaller or larger
35 geographical area.

8. A method as claimed in Claim 7, wherein the client

computer includes means for formulating a further request to the said second server, to identify places of interest lying within the said smaller or larger geographical area.

9. A method as claimed in any one of the preceding

5 Claims, including the steps of

storing on the first server computer a list of categories of places of interest,

retrieving the said list with the said map data, and

displaying on the said visual display unit a

10 respective icon for each said category.

10. A method as claimed in any one of the preceding Claims, wherein formulation of the said request is effected by activation of a respective icon on the said visual display unit.

15 11. A method as claimed in any one of the preceding Claims, wherein the said request includes data representing the spatial co-ordinates of two diagonally opposite corners of the displayed image of the said map.

12. A method as claimed in any one of the preceding
20 Claims, wherein the said client computer includes means for establishing the current geographical location of the client computer by means of a Global Positioning System, and means passing the said current geographical location of the client computer to the second server computer.

25 13. A method as claimed in Claim 12, wherein the said client computer includes means for superimposing on the said image an icon indicative of the said current geographical location.

14. A computer system which comprising:

30 a first server computer for storing data representative of a map of a geographical area and co-ordinate data representative of the spatial co-ordinates of at least one point lying within the area represented by the map;

a second server computer for storing data representative
35 of at least one place of interest within the said geographical area, said data including data representative

of the spatial co-ordinates of the said place of interest within the area,

a client computer, the client computer having a visual display unit;

5 wherein the client computer includes

means for interrogating the first server computer to request transfer to the client computer of the said map data and the said co-ordinate data associated with the area represented by the map,

10 means for displaying an image of the said map on the said visual display unit,

means for formulating based on the said co-ordinate data a request to the said second server computer to identify places of interest known to it and lying within the said geographical area, and

15

means for transmitting the request to the second server computer;

wherein the second server computer includes means for transmitting to the client computer in response to the said request the said data representative of at least one place of interest within the said geographical area, and

20

wherein the said client computer includes means for displaying said data associated with the said place of interest, on the said visual display unit.

25 15. A computer system as claimed in Claim 14, wherein the client computer includes means for superimposing information relating to the said place of interest on the said image on the said visual display unit, at a position on the said image corresponding to the location of the place of interest on the map.

30

16. A computer system as claimed in Claim 15, wherein the said information superimposed on the image is a hypertext link.

17. A computer system as claimed in Claim 15 or Claim 16, wherein the said client computer includes means for scrolling the said map image to display an image of a

35

different geographical area, and means for varying the displayed data relating to the said at least one place of interest on the said visual display unit so as to take account of the change in the displayed geographical area.

5 18. A computer system as claimed in Claim 17, wherein the said client computer includes means for varying the information from the second server computer which is displayed, in response to scrolling of the said map image.

10 19. A computer system as claimed in Claim 18, wherein the client computer includes means for formulating a further request to the said second server, to identify places of interest lying within the said different geographical area.

15 20. A computer system as claimed in any one of Claims 13 to 19, wherein the said client computer includes means for zooming the said map image in or out to display an image of, respectively, a smaller or larger geographical area, and means for varying the displayed data relating to the said at least one place of interest on the said visual display unit so as to take account of the smaller or larger
20 geographical area.

21. A computer system as claimed in Claim 20, wherein the client computer includes means for formulating a further request to the said second server, to identify places of interest lying within the said smaller or larger
25 geographical area.

Figure 1

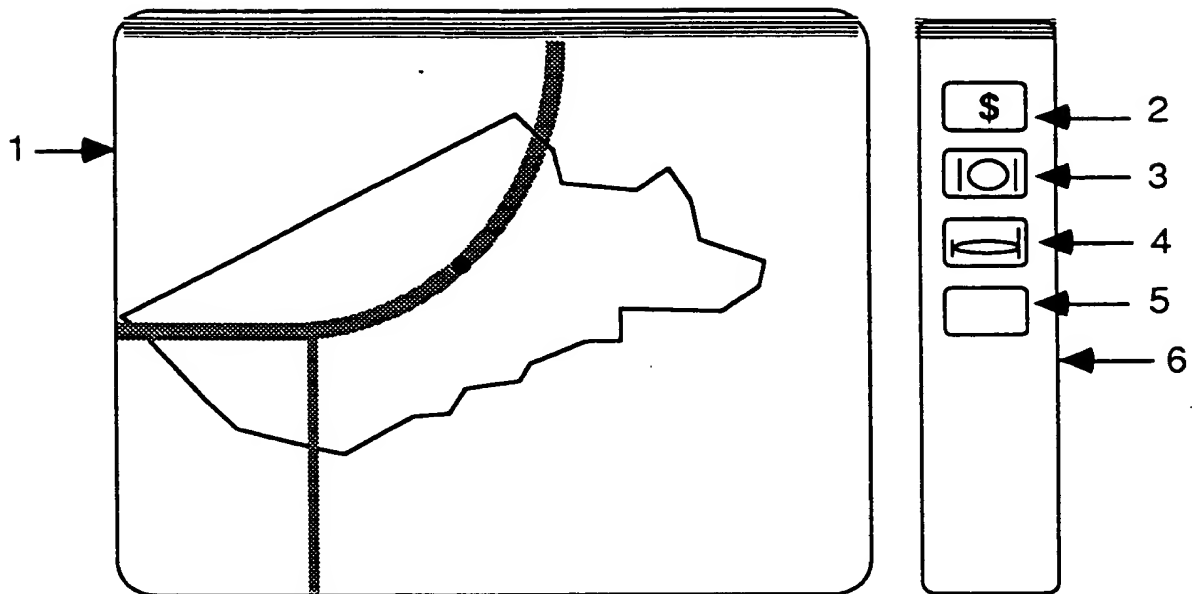


Figure 2

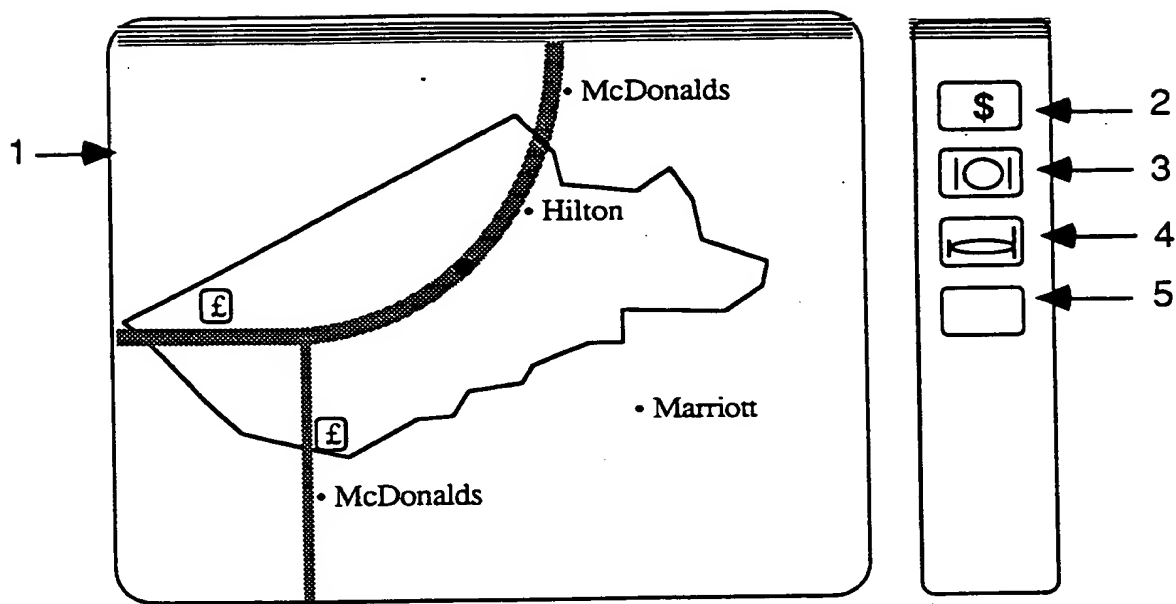


Figure 3

